

CLAIMS

1. A packaged microelectronic element comprising:

(a) a microelectronic element having a front surface with contact pads thereon;

(b) elongated solder columns extending from said front surface of said microelectronic element, said columns having distal ends remote from said microelectronic element; and

(c) terminals connected to said distal ends of said solder columns.

2. A packaged microelectronic element as claimed in claim 1 further comprising a dielectric packaging structure overlying said front surface of said microelectronic element, said dielectric packaging structure having an interior surface facing toward said microelectronic element and an exterior surface facing away from said microelectronic element, said packaging structure having pads connected to said distal ends of said solder columns and having said terminals thereon connected to the pads of the packaging structure.

3. A packaged microelectronic element as claimed in claim 2 further comprising a compliant layer surrounding said solder columns, and wherein said packaging structure is a flexible sheetlike element.

4. A soldered assembly comprising:

(a) first and second elements having confronting surfaces, pads on said confronting element arranged in pairs, each such pair including a pad on the first element and a pad on the second element; and

(b) solder masses at at least some of said pairs, each such solder mass being associated with the pads of one said pair and extending therebetween, said solder masses incorporating columnar inclusions therein, said columnar inclusions within at one of said solder masses being oriented preferentially in the direction between the pads of the associated pair.

5. A soldered assembly as claimed in 4 wherein each said solder mass is elongated in the direction between the pads of the associated pair.

6. An assembly as claimed in 5 wherein the pads of each said pair are spaced apart from one another in a vertical direction normal to the confronting surfaces and offset from one another in a horizontal direction parallel to the confronting surfaces so that said elongated solder masses extend oblique to said vertical and horizontal directions.

7. A soldered assembly as claimed in 4 wherein said solder masses consist essentially of a lead-tin solder with between about 1% and about 5% copper, and wherein said columnar inclusions constitute a copper-rich phase within said solder masses.

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